

## ABSTRACT

A process for preparing a layer of a nano-porous metal oxide semiconductor comprising the steps of: (i) providing metal oxide  
5 semiconductor nano-particles prepared by a wet precipitation process, (ii) heating said nano-particles at a temperature in the range of 250 to 600°C, (iii) preparing a dispersion of said heat-treated nano-particles from step (ii), (iv) applying said dispersion prepared in step (iii) to a support to produce a coating; and (v)  
10 subjecting said coating to a pressure in the range of 100 to 1000 bar at a temperature below 250°C; a layer of a nano-porous metal oxide semiconductor obtained by this process; and a photovoltaic device comprising a layer of a nano-porous metal oxide semiconductor obtained by this process.

15